

CLAIMS

1. Yarns, fibres or filaments with antibacterial and antifungal properties, comprising at least one polymer matrix and zinc sulphide.

5 2. Yarns, fibres or filaments according to Claim 1, characterized in that the weight proportion of zinc sulphide relative to the total weight of the composition intended to form yarns, fibres or filaments is between 0.01% and 10%.

10 3. Yarns, fibres or filaments according to Claim 1 or 2, characterized in that the weight proportion of zinc sulphide relative to the total weight of the composition intended to form yarns, fibres or filaments is between 0.2% and 5%.

15 4. Yarns, fibres or filaments according to any one of Claims 1 to 3, characterized in that the polymer matrix is a thermoplastic matrix.

5. Yarns, fibres or filaments according to any one of Claims 1 to 4, characterized in that the
20 thermoplastic matrix comprises at least one thermoplastic polymer chosen from the group comprising polyamides, polyesters such as PET, PBT and PTT; polyolefins such as polypropylene and polyethylene; PVC; copolymers and blends thereof.

25 6. Yarns, fibres or filaments according to any one of Claims 1 to 5, characterized in that the thermoplastic matrix comprises at least one polyamide

chosen from the group comprising: polyamide 6, polyamide 6,6, polyamide 11, polyamide 12, polyamide 4, polyamides 4-6, 6-10, 6-12, 6-36 and 12-12; copolymers and blends thereof.

5 7. Yarns, fibres or filaments according to any one of Claims 1 to 6, characterized in that the zinc sulphide is in the form of particles coated and/or encapsulated with at least one mineral and/or organic compound.

10 8. Composite article with antibacterial and antifungal properties, comprising at least yarns, fibres or filaments according to any one of Claims 1 to 7.

 9. Process for manufacturing yarns, fibres
15 or filaments with antibacterial and antifungal properties, which consists in spinning a composition comprising a polymer matrix and zinc sulphide.

 10. Manufacturing process according to Claim 9, comprising at least the following steps:

- 20 - a) placing the polymer matrix, optionally in melt form, in contact with zinc sulphide and/or a concentrated composition based on polymer matrix comprising zinc sulphide; and
- b) spinning the mixture obtained in step a) so as
25 to obtain yarns, fibres and/or filaments.

 11. Use of zinc sulphide in a polymer matrix for the manufacture of yarns, fibres, filaments or

articles with antibacterial and antifungal properties.

12. Article with antibacterial and antifungal properties, comprising at least one polymer matrix and zinc sulphide.